

The California High-Speed Train Network

The Next Steps to Construction

THE OBJECTIVE

The objective of the proposed California High-Speed Train (HST) network is to provide a reliable mode of travel, which links the major metropolitan areas of the state, and delivers predictable and consistent travel times. It will provide an interface with commercial airports, mass transit and the highway network and relieve capacity constraints of the existing transportation system as increases in intercity travel demand in California occur. It should be a network that is fast, efficient, safe, convenient, and an economical train system that serves at least 90 percent of the state's population, utilizing the least amount of the earth's resources. The network is also intended to serve the mobility needs of California's highly diverse and rapidly growing population and economy for the years 2020 and beyond.

To meet these objectives the California High Speed Rail Authority (Authority) has investigated numerous options for routes, stations and equipment. It has compared those options against each other and against doing nothing, as well as building additional highways and increasing the capacity of our existing airports to achieve the same objective. Upon the completion of the Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the proposed network, the Authority approved a HST network that consists of over 700 route miles.

NEXT TASK

The next task is to complete project-level environmental documents and 30 percent plus engineering of various segments or portions of the network so that design build contracts can be awarded, within the next 36 months. For this purpose the Authority has assembled a team of experts to carry out these tasks and prepare the necessary documents.

Construction of such a transportation network is an enormous undertaking, the like of which has not been seen in this state or country. It must be carried out with great care and considerable thought.

Building a network of this size will tax the state's resources, such as its financial, human and material needs, and the Authority must deal with both environmental and engineering challenges. Like all the other HST networks implemented throughout the world, the California HST network must be built in Phases that are carefully planned; each Phase in turn must be built in stages.

In order to better utilize limited resources the Authority needs to select the first Phase and concentrate most of its resources to the construction of that Phase. While placing emphasis on Phase I the Board must also continue with some necessary planning, environmental studies, and other activities to advance and preserve those routes and stations that are not included in Phase I.

Included in the previous two public meetings were phasing workshops. These workshops provided an opportunity for the Board and the general public to identify and discuss the major factors to be considered in the development of the Phasing Plan, the following items were included in the discussions:

- Availability of funds
- The utility of each Phase
- Time needed for construction
- Availability of public and private partners
- Need of right-of-way acquisition

At the conclusion of the March 2, 2007 public meeting the Board directed staff to prepare a listing of different segments within the network, comparing cost, ridership, revenue, and utility of these various segments to each other. This list of segments and the comparative information were presented to the Board on April 18, 2007. From this meeting the Board instructed the staff to prepare and present to the Board for its consideration a recommendation for Phase I.

PHASE I RECOMMENDATION

The following recommendation took into consideration the cost, ridership, and revenue data presented to the Board on April 18, 2007. It should be noted that ridership and revenue forecasts are continuing to be modified as more fine-tuning of the model is performed. The changes in those forecasts if any are not likely to change the debate and ultimately the selection of Phase I. The staff recommendation is also based on the following factors and conditions:

- Early utilization of some segments.
- Some degree of local and regional participation in the early construction and funding.
- Serving many regions.

- Significant operating surplus to include a private partner in the construction and operation.
- Development of a high-speed segment of around 100 miles, for building, testing, and commissioning the high-speed trainsets, equipment and systems.
- Completion in less than 10 years from today.

Based on the criteria previously stated the Authority staff recommend that Phase I be defined as follows:

ANAHEIM TO LOS ANGELES TO MERCED AND THE SAN FRANCISCO BAY AREA

The Phase I recommendation of Anaheim to Los Angeles to Merced and the San Francisco Bay Area is consistent with the Authority's stated objectives; connecting the major metropolitan areas of the state while serving the fastest growing region, the Central Valley. The proposed Phase I is the backbone of the network, producing the highest potential ridership and revenue, which in all likelihood will attract substantial private sector financing. Within Phase I the Authority will capitalize on improvements already planned and underway in selected segments of the network as well as developing a high-speed train segment in the Central Valley that will provide for the commissioning and testing of the equipment.

The San Diego to Los Angeles segment was not included in Phase 1 because there is considerable uncertainty and this weighs against the inclusion of this segment in the first Phase of the HST network. The Southern California Association of Governments (SCAG) is continuing its studies aimed at HST service between Los Angeles, Ontario, and Riverside. SCAG has been leaning towards Magnetic Levitation Trains (Maglev) as the preferred technology.

Similarly in the San Diego region, the San Diego Association of Governments (SANDAG) will be studying the potential use of Maglev technology between San Diego and Riverside. Although that study has not yet commenced, it is expected to in the near future.

Therefore in those corridors, the Authority needs to work with the regional entities to define the corridor and technology. Once the technology is defined in more detail, if the need remains for the California HST network to serve this area, then the Authority should consider a staging strategy that addresses the defined system and service needs.

The following paragraphs provide additional details of the segments included in Phase 1:

Anaheim – Los Angeles

The Anaheim to Los Angeles segment is being pursued by local and regional entities to develop improvements to accommodate growing commuter and safety needs. These entities plan to spend significant resources for that purpose. Including this segment in the early stages



SAN FRANCISCO/SAN JOSE TO ANAHEIM (via Pacheco Pass)

Total Capital Costs (in billions)	Revenue (in millions)	O&M Costs (in millions)	Operational (Deficit/Surplus) (in millions)
\$28.5	\$1,271.6	\$354.6	\$917.0



of Phase I will enable the Authority to maximize the use of these resources and will help to reduce the need for state funds.

Los Angeles - Palmdale

The segment between Los Angeles and Palmdale could yield significant early commuter benefits if a cooperative operating plan can be developed with Metrolink. Under this scenario Metrolink could utilize the new tracks, alignment and grade separations constructed for HST to operate its trains more frequently, efficiently, and safely.

Central Valley

Within this recommendation for Phase I, includes a segment of the HST network in the Central Valley where high speeds can be reached and that would be long enough for testing and commissioning of the necessary train equipment and operations. The construction, equipment, manufacturing, testing, and commissioning will take considerable time and are in the critical path of the project. Therefore, work must start as soon as possible between Merced and Bakersfield.

Merced has been included in Phase I because a Merced to Bakersfield service will have a much higher utility than a segment consisting of only Fresno to Bakersfield. The new UC Merced campus along with Merced Community College could also become a center for high-speed train research and training. Additionally, this segment would provide early utilization opportunities for commuters to the new campus and other Central Valley communities.

Bay Area

Given that the connection from the Central Valley to the San Francisco Bay Area (SFBA) is still under study and the identification of the preferred alignment and station location is pending (SFBA in this context means, San Francisco, Oakland, or San Jose or any combination of those cities including all three cities), this part of Phase I should be further defined at the conclusion of EIR/EIS and after a preferred route or routes has been selected.

Similar to the Anaheim to Los Angeles segment a situation would exist in The Bay Area where local and regional funds are dedicated to train service improvements, should the San Francisco to San Jose segment be identified and selected as part of the preferred alternative, including this segment in Phase I will enable the Authority to maximize the use of these resources and will help to reduce the need for state funds.

Mountain Crossings

Work must also commence early to address the two major mountain crossings in the HST network, given the complexity of engineering, environmental and construction issues for these areas and the long time needed for construction for tunnels and other structures. These segments are likely to be the last to be completed to provide HST service between SFBA and Anaheim.

PHASE I - CONSTRUCTION TIMELINE AND FINANCING PLAN

Upon selection of Phase I, and with the appropriate levels of funding in the 2007/08 State Budget to continue the program, the Authority staff will prepare the schedule for construction and the financing plan for this phase.

The current year's budget enabled the Authority to hire the necessary engineering and construction planning experts, who have built similar projects around the world, utilizing the expertise of these professionals the Authority staff, will prepare construction timeline for Phase 1.

Additionally, the 2006/07 budget provided the funding needed to hire a team of financial experts. During the current fiscal year the financing team has begun to identify available private, public and public-private partnership funding opportunities for the project. This ground work will allow the Authority staff to prepare a detailed financing plan for Phase 1.